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Xavier Montagne

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EXAMINER

TABLER, MATTHEW C

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/631,824	<b>Applicant(s)</b> MONTAGNE ET AL.	
	<b>Examiner</b> MATTHEW C. TABLER	<b>Art Unit</b> 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 35-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 35-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This office action is in response to applicant's remarks filed on 2/28/08.

Currently, claims 1-15 and 35-39 are pending.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-15 and 35-39** are rejected under 35 U.S.C. 102(b) as being anticipated by Carter (US Patent 4,706,216) patented on November 10<sup>th</sup>, 1987.

**Regarding claim 1**, Carter shows an integrated circuit (Abstract), comprising a reconfigurable interconnect portion (Figure 8 – multiplexers 101-103; Column 8, line 64 – Column 9, line 39), a data processing portion coupled to the reconfigurable interconnect portion (registers not shown, Column 9, lines 8-11), the data processing portion configured to provide a bit pattern to the reconfigurable interconnect portion to load a configuration of the reconfigurable interconnect portion (registers provide configuration bits), and a storage unit coupled to the data processing portion (Figure 8 – storage circuit 120; Column 9, lines 51-63), the storage unit including a configuration bit look-up table (coupled to LUT's 110 and 111; select logic 110 and 111 are look-up tables; Column 9, lines 21-24), wherein the data processing portion is configured to extract a set of bits (configuration bits) for a single output from the configuration bit look-

up table (single output of 110 is dependent on configuration bits that provide 110-1, 110-2, and 110-3 signals to LUT 110).

**Regarding claim 2**, Carter shows the integrated circuit wherein the integrated circuit includes a second reconfigurable interconnect portion (multiplexers 104-106), and the configuration bit look-up table is configured to allow the data processing portion to extract a first set of configuration bits representing the bit pattern (several sets of configuration bits are received; see example in Column 8, line 64 – Column 9, line 3, i.e. A, B, C, and D) and to extract a second set of configuration bits representing a second bit pattern to load a second configuration of the second reconfigurable interconnect portion (i.e. A, B, C, and Q), wherein the second set is a subset of the first set (Column 10, lines 22-30). (first configuration bits configure MUX's 101-103; second configuration bits configure MUX's 104-106)

**Regarding claim 3**, Carter shows the integrated circuit wherein the reconfigurable interconnect portion comprises a switching matrix (configurable logic element apart of larger switching matrix circuit shown in Figure 4A).

**Regarding claim 4**, Carter shows the integrated circuit wherein reconfigurable interconnect portion comprises a multiplexer (multiplexers 101-106 shown in Figure 8).

**Regarding claim 5**, Carter shows the integrated circuit wherein the switching matrix includes a control signal input configured to select between two inputs to connect to an output (Figure 7 shows output circuit as 'select logic 140' which selects between two inputs to connect to an output; Column 8, lines 60-63).

**Regarding claim 6,** Carter shows the integrated circuit wherein the reconfigurable interconnect portion comprises a pair of transistors (reconfigurable interconnect multiplexers comprise several pairs of transistors).

**Regarding claim 7,** Carter shows the integrated circuit wherein the reconfigurable interconnect portion comprises a plurality of memory elements (Column 8, lines 51-60), each memory element connected to at least one switch of the reconfigurable interconnect portion (see Figure 8).

**Regarding claim 8,** Carter shows the integrated circuit wherein the bit pattern is derived from the configuration bit look-up table (Column 9, lines 21-24).

**Regarding claim 9,** Carter shows the integrated circuit wherein the configuration bit look-up table comprises a plurality of rows of configuration bits (RAM 108 has selectable locations; Column 9, lines 21-24).

**Regarding claim 10,** Carter shows the integrated circuit wherein the storage unit is coupled to the data processing portion by a plurality of address lines for accessing the rows of configuration bits stored within the storage unit (RAM 108 has selectable locations; Column 9, lines 21-24).

**Regarding claim 11,** Carter shows the integrated circuit wherein the storage unit further comprises programming instructions configured for accessing the configuration bit look-up table (each of the configurable switches 101-106 is configured with control bits from a programming register; Column 9, lines 9-11), wherein the programming instructions are further configured for extracting a subset of configuration bits from the configuration bit look-up table (Column 9, lines 21-24).

**Regarding claim 12,** Carter shows the integrated circuit wherein the data processing portion (Figure 8 – 100) is configured to map a first input (circuit 112 receives inputs from 110 and 111) of the reconfigurable interconnect portion to a first output of the reconfigurable interconnect portion in response to a first command (command from signal B may pass input from circuit 110; Column 9, lines 21-28).

**Regarding claim 13,** Carter shows the integrated circuit wherein the data processing portion (Figure 8 – 100) is configured to map a second input (circuit 112 receives inputs from 110 and 111) of the reconfigurable interconnect portion to a second output of the reconfigurable interconnect portion in response to the first command (command from signal B may pass input from circuit 111; Column 9, lines 21-28).

**Regarding claim 14,** Carter shows the integrated circuit wherein the data processing portion (Figure 8 – 100) is configured to map a second input (second input to 114 from circuit 111) of the reconfigurable interconnect portion to a second output (F1) of the reconfigurable interconnect portion in response to a second command (command on line 115; Column 9, lines 28-32).

**Regarding claim 15,** Carter shows the integrated circuit further comprising a second reconfigurable interconnect portion (Figure 8 – circuits 104-106), and wherein the data processing portion (Figure 8 – 100) is configured to map a first input (first input to 114 from circuit 111) of the second reconfigurable interconnect portion to a first output (F1) of the second reconfigurable interconnect portion in response to a second command (command on line 115; Column 9, lines 28-32).

**Regarding claim 35**, it has been rejected on the same grounds as claim 1.

**Regarding claim 36**, Carter shows an integrated circuit (Figure 8), comprising a reconfigurable interconnect portion (multiplexers 101-103), a data processing portion (registers not shown) coupled to the reconfigurable interconnect portion (Column 9, lines 8-11), the data processing portion configured to provide a bit pattern to the reconfigurable interconnect portion to load a configuration of the reconfigurable interconnect portion (combinational logic block comprises registers that provide data to multiplexers; Column 9, lines 8-11), and a storage unit (storage unit 120) coupled to the data processing portion, the storage unit including a look-up table (coupled to LUT's 110 and 111), wherein the look-up table (Column 9, lines 21-24) is configured to allow the data processing portion to extract a first set of bits (configuration bits) representing the bit pattern (several sets of configuration bits are received; see example in Column 8, line 64 – Column 9, line 3, i.e. A, B, C, and D) and to extract a second set of bits (configuration bits) representing a second bit pattern (i.e. A, B, C, and Q) to load a second configuration of a second reconfigurable interconnect portion (multiplexers 104-106), wherein the second set is a subset of the first set (Column 10, lines 22-30), and wherein the extraction of the second set of bits is from a single output from the look-up table (single output of 111).

**Regarding claim 37**, Carter shows a method of configuring a reconfigurable interconnect portion, comprising steps of determining configuration bits to configure the reconfigurable interconnect portion (multiplexers 101-103), accessing a configuration bit-look up table (Column 9, lines 21-24), the configuration bit look-up table including a

matrix of zeros and ones (inherent to LUT design), with the ones along one diagonal (*design choice/intended use*), extracting a set of configuration bits representing the bit pattern from the configuration bit look-up table (outputs the bits stored in look-up memory), and providing the set of configuration bits representing the requested bit pattern (see Figure 8). *It has been held that a recitation directed to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).*

**Regarding claim 38**, it has been rejected on the same grounds as claim 37.

**Regarding claim 39**, Carter shows an integrated circuit, comprising a reconfigurable interconnect portion (MUX's 101-103), a data processing portion coupled to the reconfigurable interconnect portion (registers), the data processing portion configured to provide a bit pattern to the reconfigurable interconnect portion to load a configuration of the reconfigurable interconnect portion (configuration bits for MUX's 101-103), and a storage unit coupled to the data processing portion (120), the storage unit including a configuration bit look-up table (coupled to 110 and 111), wherein the configuration bit look-up table includes a matrix of zeros and ones (inherent to LUT design), with the ones along one diagonal (*design choice/intended use*). *It has been held that a recitation directed to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).*



### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

The Carter (US Patent 4,706,216) reference was applied differently in view of the amendments to the claims.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MATTHEW C. TABLER** whose telephone number is

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(571)270-1567. The examiner can normally be reached on Monday through Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on (571) 277-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. C. T./

Examiner, Art Unit 2819

May 27, 2008

/Rexford N BARNIE/

Supervisory Patent Examiner, Art Unit 2819